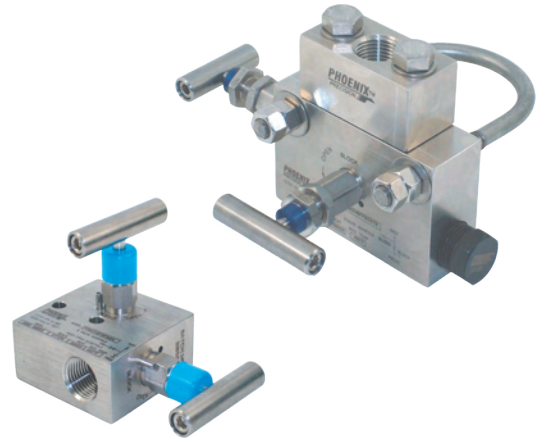


2-VALVE MANIFOLD

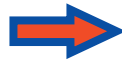
3/16" Bore 2-Valve Pipe x Pipe Manifold

The 2-valve block and bleed manifold is an efficient and economical choice for static pressure measurement due to its built-in vent/calibration port. The pipe-by-pipe design features a body manufactured from extruded solid bar, robust stems and bonnets pinned for safety. Phoenix's unique design assures a bubble tight seal. The manifold is offered in a variety of special tips, materials and configurations that meet most application requirements.



Standard Features

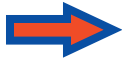
Hydrotested at 150% of rated pressure (shell test). Nitrogen gas tested to 2000 psi.



Seat tightness (zero leakage) verified to 110% of rated pressure. Nitrogen gas tested to 2000 psi.



Packing below stem threads



Metal-body-to bonnet seals are in compression, not tension



Stem threads are rolled, not cut



8 RMS stem finish



V-Style Teflon™ packing



Pressure component materials sourced from the US, Canada or Europe



Benefits

Complies with ASME B31.1 & B31.3 shell testing procedures as standard. Ensures structural integrity of valve.

Complies with ASME B31.1 & B31.3 seat testing procedures as standard. Ensures zero leakage at seats for proper calibration.

Prevents corrosion of critical stem threads

Mitigates risk of stress cracking

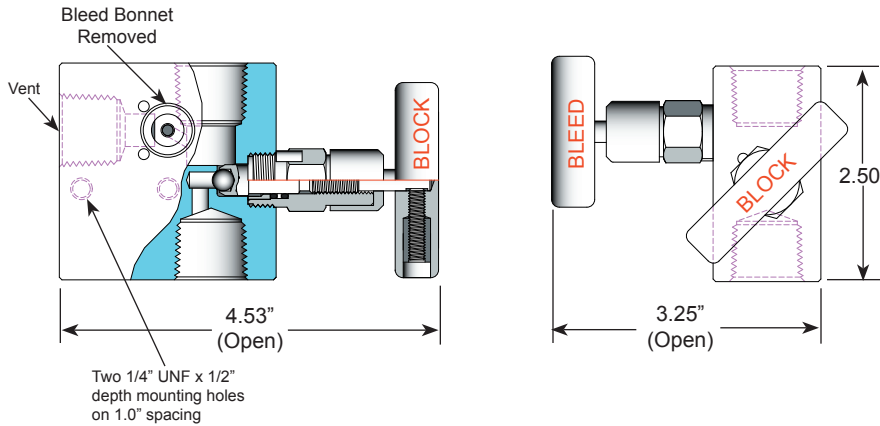
Higher quality stem for longer service life

Extended packing life

30-40% less operational torque and less frequent packing adjustments than traditional Teflon™ packed valves

Reliable material traceability. MTR's provided with every order for pressure containing components.

Pipe x Pipe Configuration

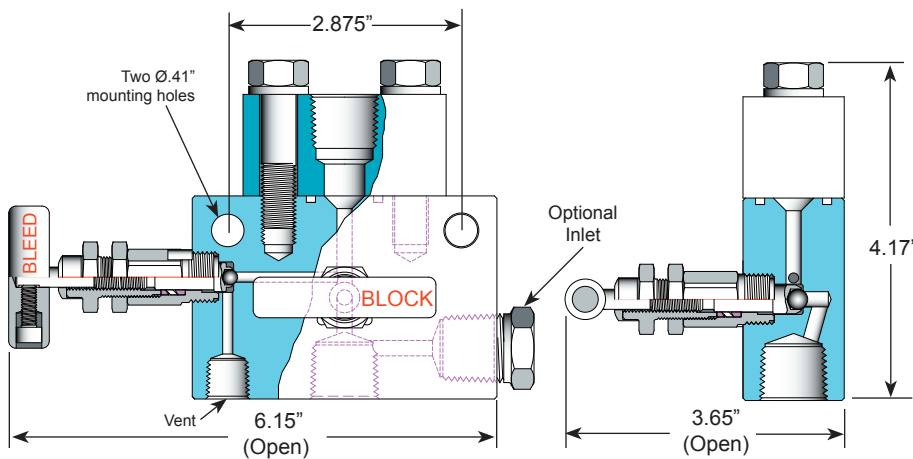


Specifications:

Type: **P3M2H**, Pipe x Pipe, Globe Pattern
 Rating: Up to 6000 psi @ 100°F
 (41370 kPa @ 38°C)
 Stem: Needle tip or Ball tip
 Packing: Viton™ O-ring, Teflon™ or Grafoil™
 Seat: Integral
 Handle: Removable
 Bore Size: 3/16" (Primary), 1/8" (Bleed)
 Inlet Connections: 1/2" FNPT
 Outlet Connections: 1/2" FNPT
 Bleed Port: 1/4" FNPT
 Bonnet Lock: Pin or Plate
 Body Stock: 2.5" x 2.5" x 1.25"
 Weight: 2.24 - 2.31 lbs
 Mounting: 2 mounting holes included on manifold for vertical mounting
 Special Service: O₂ or CL cleaning available*

*Other specifications or services may be available.

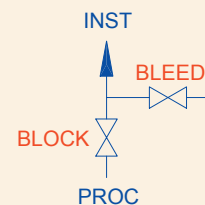
Pipe x Futbol Configuration



Specifications:

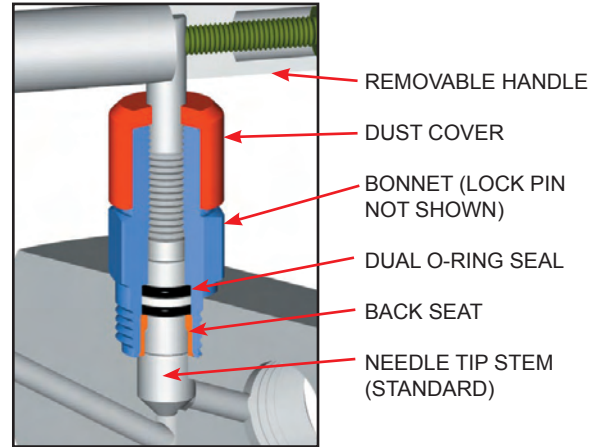
Type: **P3M2H**, Pipe x Futbol, Globe Pattern
 Rating: Up to 6000 psi @ 100°F
 (41370 kPa @ 38°C)
 Stem: Needle tip or Ball tip
 Packing: Viton™ O-ring, Teflon™ or Grafoil™
 Seat: Integral
 Handle: Removable
 Bore Size: 3/16" (Primary), 1/8" (Bleed)
 Inlet Connections: 1/2" FNPT
 Outlet Connections: 1/2" FNPT
 Bleed Port: 1/4" FNPT
 Bonnet Lock: Pin or Plate
 Body Stock: 3.750" x 2.5" x 1.25"
 Weight: 4.56 - 4.71 lbs
 Mounting: Integral 2-inch "U" bolt for pipe stand mounting included
 Special Service: O₂ or CL cleaning available*

*Other specifications or services may be available.



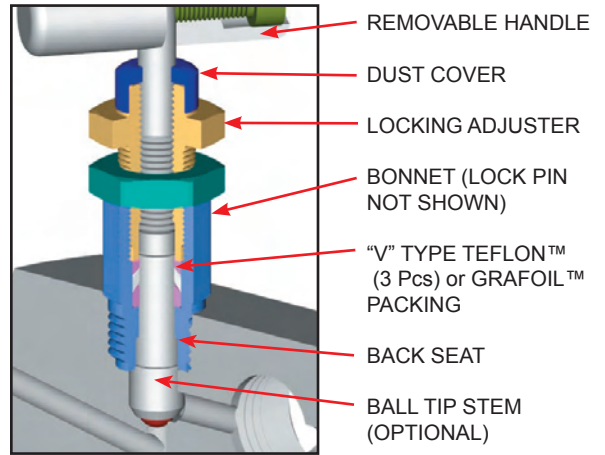
O-Ring Bonnet Assembly

Standard Materials					
Valve	Body	Bonnet	Stem	Ball	Packing
CS	ASTM A108CS	ASTM A108CS	ASTM A582 303SS	SEE OPTION CODES ON PAGE 4	Dual Viton™ O-ring with Teflon™ backup ring
SC	ASTM A105CS	ASTM A182 316SS	ASTM A182 316SS		
316SS	ASTM A182 316SS	ASTM A182 316SS	ASTM A182 316SS		



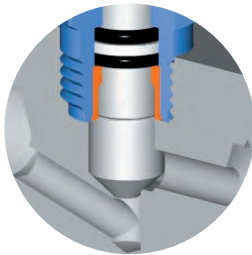
Teflon™ or Grafoil™ Bonnet Assembly

Standard Materials					
Valve	Body	Bonnet	Stem	Ball	Packing
CS	ASTM A108CS	ASTM A108CS	ASTM A582 303SS	SEE OPTION CODES ON PAGE 4	Teflon™ and Grafoil™
SC	ASTM A105CS	ASTM A182 316SS	ASTM A182 316SS		
316SS	ASTM A182 316SS	ASTM A182 316SS	ASTM A182 316SS		

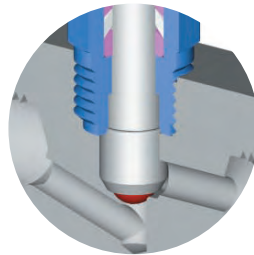


NOTE: Low torque Grafoil™ available (G4 Packing Code)

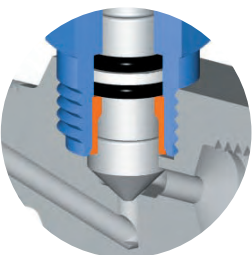
Stem and Seat Configurations



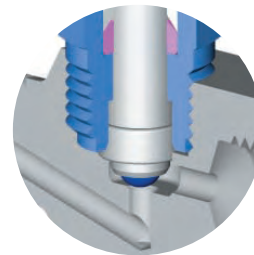
3/16" Bore Needle Tip (Standard)



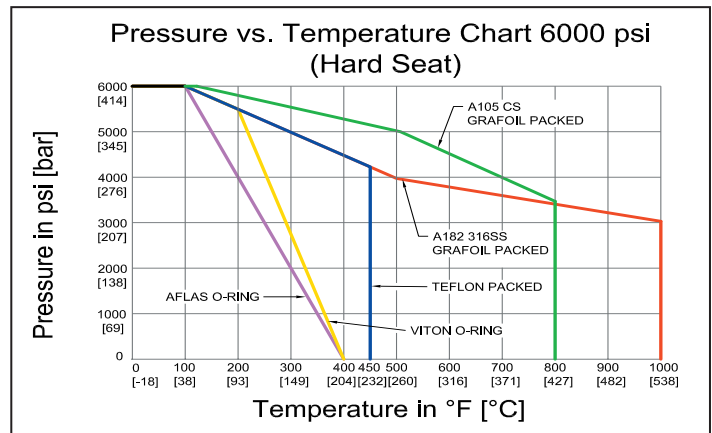
3/16" Bore Ball Tip (Optional)



Mini Needle Tip (Standard)



Mini Ball Tip (Optional)



Note: Body material specifications based on ASME B16.34 - 2009. Packing material ratings based on manufacturer's specifications. Approximations only. Phoenix does not represent these values as finite. They are provided only as representative values.

P3M2H™ 2-Valve Pipe x Pipe Manifold Model Numbering System

Phoenix	Orifice Size	Type	Inlet Size	Inlet Type	Outlet Size	Outlet Type	Material	Packing	Seat	Stem Tip	Option Codes	Description
P	3=3/16"	M2H	8=1/2"	F=FNPT	8=1/2"	F=FNPT	SS=ASTM A182 316/316L	A=Aflas™	Integral (leave blank)	Needle Tip Standard (leave blank)	LB	Bonnet Lock
						FB=Futbol	SC=ASTM A105 CS*	V=Viton™ (FKM)		B=316SS Ball Tip	CC	Chlorine Clean
							CS=ASTM A108 CS*	T=Teflon™ (PTFE)		BC=Ceramic Ball Tip	OC	Oxygen Clean
							C5=ASTM A350 LF2	G=Grafoil™		BM=Monel™ Ball Tip	TG	SS Tag
							N4=Monel™ 400	G4=Low Torque Grafoil™			SGI	Sour Gas ISO NACE Latest Rev.
							N6=Inconel™ 625				N4	Monel™ 400 Stem
							N8=Inconel™ 825				N5	Monel™ 500 Stem
							N2=Hastelloy™ C276				N6	Inconel™ 625 Stem
											N8	Inconel™ 825 Stem
											N2	Hastelloy™ C276 Stem
											VMB**	Vertical Mounting Bracket
											VMSB**	SS Vertical Mounting Bracket
											S6	316 SS Bolts
											225CS	2.25" CS Bolts
											225S4	2.25" 304 SS Bolts
											225S6	2.25" 316 SS Bolts
											TB	1/4" FNPT Test Ports Bottom
											PB	1/4" FNPT Purge Ports Bottom
											B7	AISI 4140/4142 QT
											B8C1	Class 1, 304SS, ST
											B8MC1	Class 1, 316SS, ST
											B8C2	Class 2, 304SS, ST, SH
											B8MC2	Class 2, 316SS, ST, SH

EXAMPLE: P3M2H8FFBSSTB = 3/16" Orifice, 2-Valve Manifold, 1/2" FNPT Inlet, Futbol Outlet, 316 SS Body, Teflon™ Packing, Integral Seat, 316 SS Ball Tip Stem

P	3	M2H	8	F		FB	SS	T		B
---	---	-----	---	---	--	----	----	---	--	---

* For code applications, A105 CS must be selected for CS valves. Code grade bolts must be specified for code applications.
** Used for pipe x pipe manifolds only (See Option Codes)
Note: **Standard Bolting Options**, **CS** - carbon steel, Gr.8, zinc plated bolts; **SS** - stainless steel, 18.8 (304SS) bolts.

Use with Confidence, Phoenix Precision Products Meet the Following Specifications:

- ✓ ASME B31.1 Power Piping
- ✓ ASME B31.3 Process Piping
- ✓ ASME B16.34 Valves - Flanged, Thread, and Welding End
- ✓ API 598 Valve Inspection and Testing
- ✓ MSS SP-25 Standard Marking Systems for Valves, Fittings and Flange Unions
- ✓ MSS SP-99 Instrument Valves
- ✓ MSS SP-105 Instrument Valves for Code Applications
- ✓ NACE MR0175/ISO15156 for all 316SS valves and A105CS body/316SS bonnet (SC-Material Code) when in service with less than 50 PPM of chlorides

Code Bolting Information

- B7, B8C1, B8MC1, B8C2, B8MC2 are code grades to ASTM A193;
- To specify code grade bolting, example: 225B7 indicates 2.25" bolt length; B7 grade, alloy steel, AISI 4140/4142
- QT**-Quenched & Tempered; **ST**-Carbide Solution Treated; **SH**-Strain Hardened

Seal and Seat Material Temperature Rating

Code	Description	MIN. TEMP	MAX. TEMP
A	Aflas™	15°F (-10°C)	400°F (204°C)
V	Viton™	-20°F (-29°C)	400°F (204°C)
T	Teflon™	-65°F (-54°C)	450°F (232°C)
G	Grafoil™ (SS Body)	-70°F (-56°C)	1000°F (537°C)
	Grafoil™ (CS Body)	-70°F (-56°C)	800°F (427°C)

Note: Grafoil™ is suitable for services in excess of 1000°F in a non-oxidizing environment.

For further information please contact:

Phoenix Precision Ltd.
2620 21st Street N.E.
Calgary, Alberta T2E 7L3
Phone: (403) 291-3154
Fax: (403) 291-3292
email: phoenix@phoenixprecision.ca
www.phoenixprecisionvalves.com



Distributor / Representative:

Haldatec

P phone: +61-3-9872-5822 Fax: +61-3-9872-5129
E-mail: sales@haldatec.com.au Web Site: www.haldatec.com.au

Phoenix Precision Ltd. (PPL) provides the information herein in good faith but makes no representation as to its comprehensiveness or accuracy. The information contained herein is intended only as a guide to PPL products and services. Individuals using information must exercise independent judgment in evaluating product selection and determining product appropriateness for their particular purpose and system requirements. PPL MAKES NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION ANY WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE WITH RESPECT TO THE INFORMATION SET FORTH HEREIN OR THE PRODUCT(S) TO WHICH THE INFORMATION REFERS. ACCORDINGLY, PPL WILL NOT BE RESPONSIBLE FOR DAMAGES (OF ANY KIND OR NATURE, INCLUDING INCIDENTAL, INDIRECT, OR CONSEQUENTIAL DAMAGES) RESULTING FROM THE USE OF OR RELIANCE UPON THIS INFORMATION. Patents and Patents Pending in the U.S. and foreign countries. PPL reserves the right to change product designs and specifications without notice.

DELFIN, TERFEL, VITON and TEFLON are registered trademarks (hereinafter referred to as TM) of E.I. Du Pont De Nemours and Company Corporation. PEEK is a registered TM of Whitford Worldwide Company and Whitford B.V. KEL-F is a registered TM of M.W. Kellogg Company. GRAFOIL is a registered TM of High Temperature Materials Inc. and Graftec Inc. Corporation. AFLAS is a registered TM of Asahi Glass Co. Ltd. Corporation Japan. MONEL and INCONEL are registered TMs of Huntington Alloys Corporation. HASTELLOY is a registered TM of Haynes International, Inc.

© 2010 by Phoenix Precision Ltd. All rights reserved. Material in this brochure or catalogue may not be reproduced in whole or in part, in any form, without written permission from the publisher.